

REQUIRED TOPIC 5: DIABETES AND EXERCISE/ACTIVITY**STATEMENT OF THE PROBLEM**

Physical activity is an important factor in managing diabetes and blood glucose as well as maintaining overall health.

KEY MESSAGES

1. Physical activity, along with food, and medications is an important part of taking care of your diabetes.
2. Physical activity (or exercise) lowers your blood sugar.
3. One way to start to be more physically active is to increase your activity during a regular day (examples include: taking the stairs, walking further/getting off the bus one stop earlier, etc.).
4. When beginning an exercise program, start slow and build from there.

BACKGROUND

Diabetes is managed by adjusting food intake, physical activity and medications to keep blood sugar in a healthy range. Food raises blood sugar, exercise/activity and medications lower blood sugar. Regular physical activity helps your body become more sensitive to insulin so that it will work better. This is true for insulin you make in your pancreas or if you are taking insulin shots. Exercising and being active consistently will help lower your day-to-day blood sugar levels and your A1c.

Physical activity has many positive effects beyond lowering the blood sugar. Physical activity can:

- Lower blood pressure and cholesterol.
- Lower the risk of heart disease and stroke.
- Relieve stress.
- Improve mood.
- Strengthen heart, lungs, muscles, and bones.
- Improve blood circulation
- Keep the body and joints flexible and improve balance
- Improve sleep
- Increase energy
- Burn calories to help you lose or maintain a healthy weight.
- Improve your quality of life

As a general rule, the more physical activity you do, the more you are able to do. People tend to feel better and as a result are better able to take care of themselves when they are physically active.

WHAT KINDS OF PHYSICAL ACTIVITY ARE BEST?

The two types of physical activity that are the most important for managing diabetes are aerobic exercise (such as walking) and strength training.

- Aerobic exercise, such as walking, jogging, hiking, rowing, swimming, water aerobics, biking, dancing, yard work or moderate-to heavy gardening, helps your body use insulin better. It makes your heart and bones strong, relieves stress, improves blood circulation, and reduces your risk for heart disease by lowering blood glucose and blood pressure and improving cholesterol levels.
- Strength or resistance exercises such as lifting weights, using resistance bands, or calisthenics makes your body more sensitive to insulin and can lower blood glucose. It helps to maintain and build strong muscles and bones, reducing your risk for osteoporosis and bone fractures. It can help with weight loss or management as well, because more muscle means that you will burn more calories.

Activities that promote flexibility such as stretching, yoga, or Tai Chi help you be more active by building strength and balance and reduce the risk of injury when you exercise.

HOW MUCH PHYSICAL ACTIVITY OR EXERCISE DO YOU NEED?

You should aim for 30 minutes of aerobic activity at least 5 days a week or 150 minutes a week. You should spread this time over at least 3 days and try not to go more than 2 days in a row without exercising.

Studies show that you don't have to set aside a big chunk of time each day. Engaging in aerobic exercise for at least 10 minutes, 3 times a day (total of 30 minutes) has positive effects. If you haven't been very active for a while, you should start slowly and work your way up to 30 minutes a day.

You don't have to join a gym to do strength or resistance training. You can lift weights at home using cans or filled water bottles. There are many DVDs that you can use to learn how to do strength training at home.

What are some ways to increase activity throughout the day? You can add physical activity to your day and improve your overall health, including your diabetes, by moving more throughout the day. Here are some simple ways to add activity to your daily routine:

- Parking further away from wherever you are going
- Getting off the bus one stop early and walking the rest of the way
- Using stairs instead of the elevator or escalator
- Walking instead of driving to nearby places
- Walk around when talking on the phone
- Walk in place during commercial breaks when you watch TV
- Walk every aisle of the grocery store when you shop

How to Start a Planned Activity (Regular Exercise) Program:

- **Step One:** It's a good idea to start with increasing activity throughout the day if you haven't been very physically active before. Once you have been able to do this, you may want to start a regular program. Talk to your doctor before you begin as they can tell you what is safe for you. Before starting to exercise regularly, be sure to find shoes that are good for your feet and fit well to avoid sores/blisters. Always remember, to stretch after exercising (not before) to prevent injuries.
- **Step Two:** Start slowly and don't do more than you can easily fit into your schedule. Record your progress and treat yourself when you reach goals (i.e. one week, one month) to something you enjoy like a movie, visiting a friend or some time for yourself.
- **Step Three:** Gradually build up your program (either do more, add time, or increase the intensity). Always listen to your body and never do more than is comfortable. A good rule of thumb is that you should be able to carry on a conversation while doing any physical activity; if you can't, you may need to bring the intensity down a notch.

BLOOD GLUCOSE AND EXERCISE:

Physical activity usually lowers blood sugar. If you are taking diabetes medications that lower blood sugar you should check your blood sugar level before exercising. If your blood sugar is less than 100 mg/dl have a small carbohydrate snack (fruit or crackers) to boost your blood sugar and avoid getting too low. You should also carry a small snack in case you experience low blood sugar while exercising. Some examples of what to carry are:

Blood Glucose and Exercise:

Physical activity usually lowers blood sugar. If you are taking diabetes medications that lower blood sugar you should check your blood sugar level before exercising. If your blood sugar is less than 100 mg/dl have a small carbohydrate snack (fruit or crackers) to boost your blood sugar and avoid getting too low. You should also carry a small snack in case you experience low blood sugar while exercising. Some examples of what to carry are:

- Energy bar with both carbohydrates and protein
- Fresh or dried fruit
- ½ sandwich
- ¼ to ½ cup of trail mix with nuts and dried fruit

For significantly low blood sugar while exercising, carry:

- Glucose tablets for a significant low blood sugar
- 5-6 pieces of hard candy
- 4-6 ounce can of juice

Plan Ahead:

To stay safe while engaging in physical activity or exercise, be sure to drink plenty of water before, during and after the activity. You should carry identification (medic alert bracelet or clothing or shoe tag) that would identify you as someone with diabetes in case of emergency. If you take insulin or another medication that lowers your blood sugar, be sure it is written on the tag.

PATIENT OUTCOMES/GOALS

By the end of the educational session, the client with diabetes will be able to:

- Identify the benefits of increased physical activity and exercise.
- Identify a type of physical activity that they could do.
- Identify ways to increase activity in their daily routine.
- Identify a regular program of physical activity or exercise they could do
- Make a physical activity plan that works with their schedule
- State the importance of monitoring blood sugar when exercising.

CHW ACTIONS	PARTICIPANT ACTIONS
<ul style="list-style-type: none"> • Affirm any physical activity that the participant is already doing. • Guide the participant in identifying the benefits/importance of exercise. • Identify any physical activity resources that are available to the participant e.g. walking groups, group exercise options. • Assist the participant in setting a goal relative to initiating, increasing or maintaining physical activity. 	<ul style="list-style-type: none"> • Talk to your provider about your plan for physical activity before beginning a new routine. • Set a goal related to physical activity and track your progress. • Identify new ways to become more active in your daily routine. • Participate in organized physical activity opportunities as interested or available.

TOOLS/TEACHING AIDES

AIDES:

- None

HANDOUTS

1. **Topic 5 Coversheet**.....[English](#) | [Spanish](#)
2. **You Can Be Active!**[English](#) | [Spanish](#)
Source: [Public Health – Seattle & King County](#)
3. **My Personal Physical Activity Plan Goal Setting**.....[English](#) | [Spanish](#)
Source: [University of Arkansas, Research & Extension](#)

4. Make Physical Activity a Habit, My Personal Record[English](#) | [Spanish](#)Source: [University of Arkansas, Research & Extension](#)**5. Walking...A Step in the Right Direction**[English](#) | [Spanish](#)Source: [Weight-control Information Network](#). NIH Publication No. 07-4155, September 2004, Updated September 2010**6. Action Plan**[English](#) | [Spanish](#)Source: [Public Health – Seattle & King County](#)

Version	Date	Description	Staff	Final
V.1.	12/23/2011	Original	KA/ JK	Yes
V.2.	10/17/13/13	Revised	JK/KN	Yes
V.2.1	07/24/2014	Updated Formatting	ND	Yes